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Title: The new NICE abortion care guidance – what does it mean for antibiotic use?

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The 2019 published NICE abortion care guidance (NG140) recommends that antibiotic prophylaxis is offered to women who are having a surgical abortion and, when using doxycycline, a 100mg twice a day for three days should be considered. The rationale to the recommendation states “a three-day course because this may be as effective and adherence is likely to be better with a shorter outcome”. This is a shorter duration than that presented as part of the consultation. Originally “the committee agreed that 7 days of doxycycline should be considered as it would be sufficient to treat sexually transmitted infections (STIs), if present. Further, there was expert knowledge that there is no evidence of increased antimicrobial resistance (AMR) with 7 days, compared with 3 days, of treatment. This is also consistent with recommendations from BASHH 2018 for treating Chlamydia.”[1]

The evidence review concluded “RCT evidence showed there was no clinically important difference between the rate of adherence to antibiotics in the 3 day doxycycline antibiotic prophylaxis group and the 7 day doxycycline antibiotic prophylaxis group”. Additionally the “RCT evidence did not detect a clinically important difference in the rates of vomiting...No evidence was found for nausea.” Therefore the rationale for reducing the recommendation to three days cannot be based on improved adherence, side effect profile.

Only one randomised controlled trial (RCT),[2] was identified using their search criteria to answer the question “What is the optimal antibiotic prophylaxis regimen for women who are having a surgical termination of pregnancy?”. The study concluded that “Shortening oral doxycycline prophylaxis from 7 to 3 days had no adverse effect on the incidence of post-abortion infection”. Given that 1) 63% of women with chlamydia will develop pelvic inflammatory disease (PID) following surgical termination of pregnancy (TOP),[3] 2) seven days treatment is required to successfully treat Chlamydia[1] and 3) in the UK chlamydia is common in women having an abortion (5-7.6%),[4, 5] how can the conclusion of the expert review group be correct. We argue that it is because the panel failed to consider that the population studied by Litchenberg *et al.* is not representative of the majority of women undergoing TOP in the UK [2]. The authors state that STIs were uncommon in

their population, women had a mean age 26.6yrs (chlamydia is associated with age <25 yrs)[1], they had a low incidence of post abortion infection and they did not test for chlamydia as part of the study.[2] As chlamydia was uncommon we cannot be confident that this study would detect a difference in post abortion infection rates between the three day and seven day course in chlamydia-positive women. Therefore, it is inappropriate to generalise the findings of Lichtenberg *et al.* to women undergoing TOP in the UK today. [2]

The guideline also suggests using poorly defined criteria to identify women at risk of chlamydia “...unprotected sex and frequent change of and/or multiple sexual partners.” The criteria of unprotected sex will have been met by all women presenting for an abortion and in women undergoing TOP partner change is not a risk factor for chlamydia in women undergoing TOP.[4]

We therefore recommend that: “When using doxycycline for antibiotic prophylaxis in surgical abortion, oral doxycycline 100 mg twice a day for 7 days is recommended. A 3 day course can be considered if the woman is undergoing a vacuum aspiration and chlamydia infection has been excluded using a nucleic acid amplification test.” Women should also be advised that if they develop symptoms suggestive of PID they should seek medical care as early treatment reduces the risk of long term sequelae such as infertility.

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